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ENVIRONMENT

Mr. Owen Thompson
United States Environmental Protection Agency
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject:
Milwaukee Solvay Coke and Gas Site
RI/FS Administrative Settlement Agreement and Order (V W 07 C 861)
Remedial Investigation Report and Risk Assessments

Date:
December 21, 2015

Contact:
Jack Kratzmeyer

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jack.kratzmeyer@arcadis.com

Our ref:
CI001530.0012.00005

Dear Mr. Thompson:

On behalf of the Milwaukee Solvay Coke and Gas Site RI/FS Group (RI/FS Group) enclosed please find four (4) copies of the *Remedial Investigation Report, Milwaukee Solvay Coke & Gas Site, 311 East Greenfield Avenue, Milwaukee, Wisconsin* (RI Report) for your review. The RI Report is inclusive of the *Baseline Human Health Risk Assessment* (BHHRA), *Screening Level Ecological Risk Assessment* (SLERA), and the *Baseline Ecological Risk Assessment* (BERA) reports. Two copies of the RI Report have also been submitted to Ms. Margaret Brunette of the Wisconsin Department of Natural Resources (WDNR). The RI Report incorporates:

- Initial review comments from the U.S. Environmental Protection Agency (USEPA) received on October 8, 2014 on the draft RI Report and risk assessment documents submitted to USEPA on June 18, 2014, and associated RI/FS Group's written responses to USEPA initial review comments submitted to USEPA on November 21, 2014;

- USEPA additional comments received on April 7, 2015 on the RI/FS Group's responses to USEPA initial review comments, and associated RI/FS Group's written responses to USEPA additional comments submitted to USEPA on June 11, 2015;

- USEPA additional comments received on November 6, 2015 on the RI/FS Group's written responses to USEPA additional comments submitted to USEPA on June 11, 2015;

- Changes to Appendix X (Development of Background Screening Levels for Kinnickinnic River Sediments) of the draft RI Report proposed in the technical memorandum submitted to USEPA on May 18, 2015;

- Results from the May 19, 2015 meeting with USEPA and WDNR in Milwaukee, Wisconsin held to discuss the USEPA additional comments on the draft RI Report and risk assessment documents;

- Results submitted to USEPA on August 10, 2015 from the upland chromium speciation sampling activities conducted in June, 2015 to revise the BHHRA;

- USEPA comments received on November 6, 2015 regarding previously unresolved responses to the April 7, 2015 USEPA letter;

- USEPA clarifications received on November 25, 2015 regarding USEPA November 6, 2015 comments; and

- Laboratory analytical data received from USEPA on November 30, 2015 for Kinnickinnic River sediment sampling conducted by WDNR in 2003

The RI Report has been prepared in accordance with the January 31, 2007 Administrative Settlement Agreement and Order on Consent (AOC) between Region 5 of the U.S. Environmental Protection Agency (U.S. EPA) and the Respondents (American Natural Resources Company; Cliffs Mining Company; East Greenfield Investors, LLC; Maxus Energy Corporation; and Wisconsin Electric Power Company and Wisconsin Gas, LLC [d/b/a We Energies], collectively known as the Milwaukee Solvay Coke & Gas Site RI/FS Group [RI/FS Group]), the Statement of Work (SOW) for the Remedial Investigation and Feasibility Study, the Remedial Investigation/Feasibility Study Work Plan (Burns & McDonnell 2008), the Sediment Sampling Work Plan (ARCADIS 2009), and the Field Sampling Plan (ARCADIS 2012) and associated addenda.

As directed by USEPA, information related to other (non-Site related) sources of contamination to the Kinnickinnic River has been prepared as a separate report that is being submitted to USEPA independently from the RI Report.

As previously expressed, the RI/FS Group has reservations regarding certain other directives from USEPA that has had significant effect on the findings of the RI Report and which we believe is not readily supportable. Among these are:

- In its November 6, 2015 comments, USEPA states that it has not approved the reference areas and "the characterization of sediment ecological risk upstream cannot be discussed in the risk assessment and must be removed from the RI report, including but not limited to, any statement or conclusion that refers to upstream risk." This position conflicts with the position taken by USEPA in correspondence dated January 9, 2009, which states "We would like Triad sampling to be conducted adjacent to the Solvay Site and upstream of the dredge area before the dredging project commences in spring 2009. We would also like the area upstream of the dredging project to be considered as a potential background area." USEPA has provided no rationale as to why it no longer believes these data are appropriate for characterizing ecological risk in the river.

  Including background information is crucial to the risk assessment process, and not having this information included in the BERA diminishes the ability to draw conclusions regarding potential site-related risks. Relevant guidance from USEPA (1994) and WDNR (2003) recognize the importance of using data from representative background/reference sites to allow assessment of whether adverse ecological effects occur as a result of Site-related releases. The inability to use the available reference data in the BERA adds significantly to the uncertainty to the benthic community and toxicity lines of evidence.

- In its November 6, 2015 comments regarding development of equilibrium partitioning sediment benchmarks, USEPA directed that for sample analytical results with fewer than 34 PAHs, a conversion factor must be applied to estimate the Total PAH34 concentration per USEPA's Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures guidance (2003). In its comment, USEPA specifically states that the factor representing the 95th percentile must be used in the RI Report, which corresponds to a multiplication factor of 11.5 to adjust PAH13 data to Total PAH34. However, the referenced guidance specifically recommends that "the uncertainty factors developed in this section for the 13 or 23 commonly quantified PAHs NOT be used to estimate the ESB for the 34 PAHs when important decisions are to be made based on the ESB." The result is that virtually all of the pre-RI sediment samples, which were analyzed for only 16 PAHs, appear to have potential for toxicity that is an order of magnitude or more higher than the

RI sample locations that were analyzed for the full 34 PAHs. The use of the generic correction factor results in a gross overestimation of Total PAH34 concentrations at these locations, which results in significant uncertainty in this line of evidence.

- In its April 25, 2012 comments USEPA directed that the Restoration Area sediment samples could not be considered as sediment background locations and only allowed the Upstream Area sediment samples to be used as sediment background locations for bulk sediment results. Most recently on November 6, 2015, USEPA directed that benthic community survey and toxicity results for the Upstream Area also cannot be used as background locations. Throughout the 2014 and 2015 comments, the USEPA indicates the Upstream Area sediment is different from the Near Site Area sediment and that the Upstream Area background data set is not robust enough to evaluate background conditions. The RI/FS Group agrees. The dataset used to calculate background screening levels (BSLs) is limited to samples collected from the Upstream Area and does not reflect the upstream sources of contamination in the Restoration Area. These historical inputs to the Restoration Area, including the numerous storm sewers and nine combined sewer outfalls (CSOs), ultimately led to the removal of 170,000 cubic yards of contaminated sediment in 2009, and continue to affect sediment quality in the Near Site Area today. Certain constituents, such as PCBs and lead, are found at their highest concentrations in the pre-dredge sediments of the Restoration Area, and exceed sediment screening levels more frequently than in the Upstream or Near Site Area sediments. These data demonstrate that there have been significant chemical constituent input to the river sediments upstream of the Site.

  The Upstream Area dataset has now been divided into surface and subsurface sample groups, reducing the overall sample counts available for calculating surface and subsurface BSLs. Further, many of the pre-RI samples have analytical reporting limits that exceed screening levels, which limits their usefulness for evaluations. The changing and shrinking background dataset results in significant uncertainty in its representativeness of the actual background conditions especially those immediately upstream of the Near Site Area.

- In its April 7, 2015 comments USEPA directs the RI/FS Group to use analytical results for sediment samples collected in the Upstream Area in 2003 in the RI Report. As previously communicated to USEPA, the RI/FS Group believes that these analytical results are not comparable to other data used for sediment characterization due to the use of non-standard sample preparation methods (Soxhlet extraction versus sonication), different cleanup procedures, and different instrumental analysis (High Performance Liquid Chromatography versus Gas Chromatography/Mass Spectrometry).

- In the November 6, 2015 comments, USEPA directs that the RI/FS Group represent vertical soil delineation in maps in the revised RI Report. The RI/FS Group has tried to explain that it is not possible with the RI data set. In the June 11, 2015 letter, the RI/FS Group states: "In accordance with the approved RI/FS Work Plan (Burns & McDonnell 2008), subsurface samples were collected in the vadose zone either at the location of the highest PID reading or just above the water table. As such for most borings and test pits, only one subsurface sample was obtained." Therefore there are no additional vertical subsurface data to present on the RI maps. The RI/FS Group has tried to address USEPA's request in the revised report via a series of figure notes as well as labeling the depth of the samples that exceed the RSLs.

The enclosed paper copies include the following sections of the RI Report:

- Volume I - Main Text, Tables and Figures

- Volume II - Appendix Y, Baseline Human Health Risk Assessment, Appendix Z, Screening Level Ecological Risk Assessment, and Appendix AA, Baseline Ecological Risk Assessment

In addition, a DVD that contains a complete electronic copy of the RI Report, including all appendices to the report, has been inserted into a sleeve in the front inside cover of Volume I of II of each of the enclosed reports.

Please contact Chris DeJarlais, the Project Coordinator for the RI/FS Group, at (517) 625-4138, or me at (312) 575-3721 should you have any questions or comments regarding the enclosed report.

Sincerely,

Arcadis U.S., Inc.

Jack Kratzmeyer
Senior Project Manager

Copies:
Margaret Brunette, WDNR, with two copies of RI Report
Chris DeJarlais, Boulder Environmental Consulting
Milwaukee Solvay Coke & Gas Site RI/FS Group Steering Committee and Technical Committee

Enclosures (4):
Remedial Investigation Report, Milwaukee Solvay Coke & Gas Site